

The National Geographic Magazine

AN ILLUSTRATED MONTHLY

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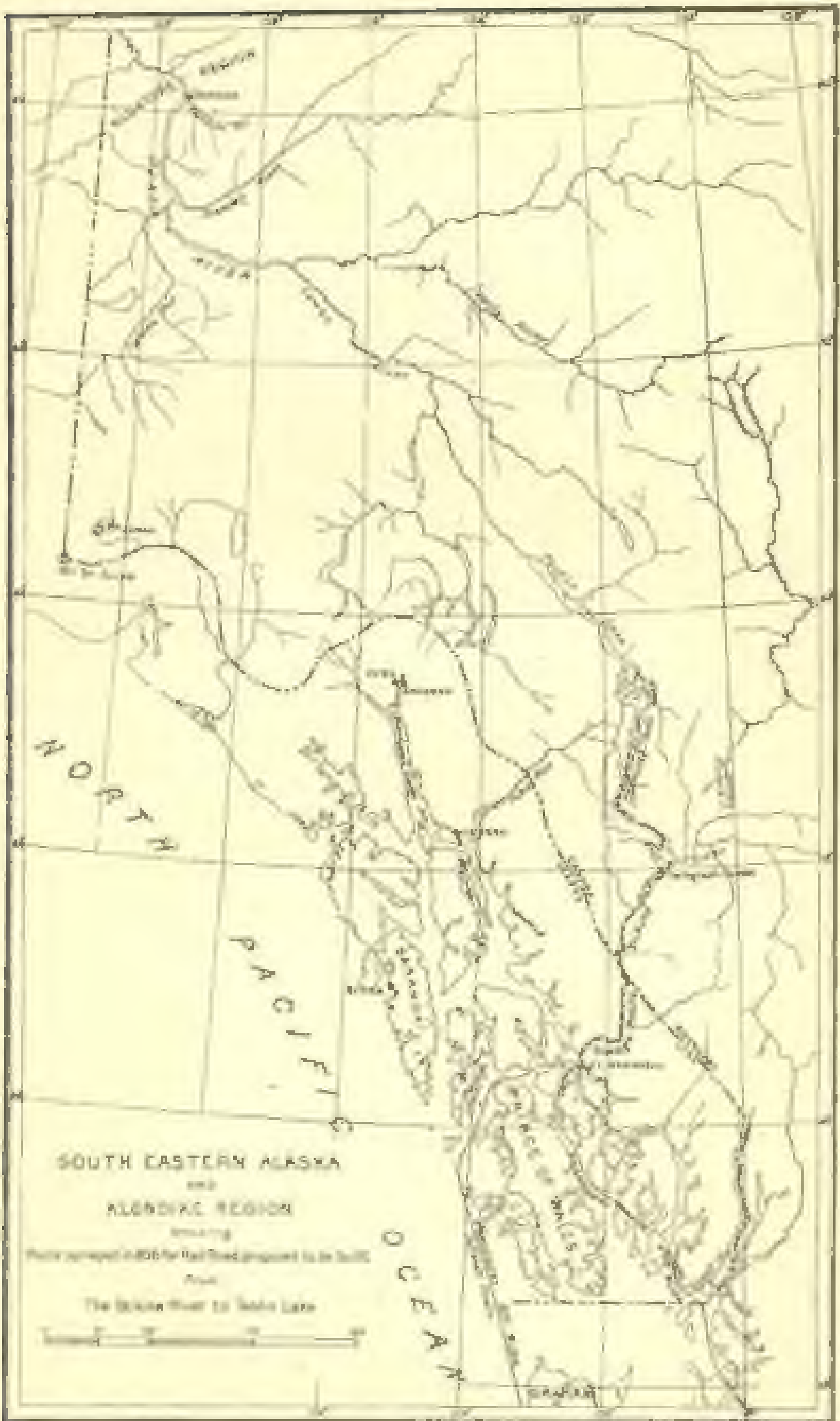
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VOL. X

OCTOBER, 1890

No. 10

LIFE ON A YUKON TRAIL.

By ARTHUR PRINCE DEXTER, Ph. D.

The Stikine river is the chief feature of the hydrography of northern British Columbia. The waters of this stream mingle with the Pacific near Fort Wrangell, Alaska. About 2,500 miles further around the big Alaskan peninsula the waters of the majestic Yukon pour into Bering sea. These rivers, 2,500 miles apart at their mouths, are less than 250 miles apart at the nearest point of their headwaters.

As the Stikine is open to free navigation by treaty with the United States, it was proposed by the Canadian authorities when the Klondike excitement was at its height to build a narrow-gauge railway from Glenora, the head of navigation on the Stikine, to Teslin lake, one of the principal sources and feeders of the Yukon. It was claimed that with the completion of the railway a passenger could go through from Vancouver to Dawson in fifteen days, with no greater inconvenience than the labor involved in stepping from the river steamer to the train. It was hopefully predicted that with the opening of the route the bulk of Klondike travel would be diverted from the American ports of Dyea, Skagway, and St. Michael, and the volume of outfitting trade transferred from Seattle to Vancouver and Victoria. After four months of preliminary survey work for the proposed railway the project was in June, 1898, abandoned. A number of causes contributed to the collapse of the enterprise: First, the waning of the Klondike excitement; second, the failure of the Dominion senate to ratify a heavy subsidy granted the road by the Canadian assembly; and, third, the energy in execution dis-

played by American capitalists in pushing the enterprise of a road to Lake Bennett via the White pass. Scarcely too much could be said for the All-Canadian route as a potentiality, but as an actuality, in the undeveloped stages of early infancy, it justly earned the reputation of being the most arduous and difficult of all the so-called practicable trails to the Yukon goldfields.

Compelled by ill-health to suspend for two years all work requiring mental stress, the writer became tolerably familiar in the mountains of southern British Columbia with the actual requirements of various rough manual employments and the actual characters of various rough folk of the mines and logging camps. It was a desire to add to these experiences with rough jobs and rough people that led him to apply for a subordinate position on the exploration and survey party dispatched in the winter of 1898 to the northern wilderness in the interests of the All-Canadian route to the Yukon.

Our party of 13 men took steamer passage in February from Vancouver, B. C., to Fort Wrangell, Alaska, in a battered old Chinese freighter, the *Awat*. From this point we crossed on open water to Copperwood Island, at the mouth of the Stikine river. It was the purpose of the party to move up the river for 150 miles over the ice to Telegraph creek. From this point we were to strike northward into the interior, for the purpose of running preliminary surveys 140 miles to Teslin lake, one of the principal sources and the head of navigation of the Yukon.

Camped on the ice and dirty snow at the mouth of the Stikine was a motley crowd of not less than 1,000 men who had been diverted from the accustomed routes to the Klondike by false reports about the opening of this new route. They had been informed that a serviceable trail connected Telegraph creek with Teslin lake. Many, too, had visions of town sites along the proposed railway, and hoped to "get in on the ground floor." They were sadly misled. The information was false, and the major portion of the wayfarers, after months of struggle, were utterly baffled in the attempt to thread their way through a remorseless wilderness of mountain and swamp to Teslin lake.

We were better equipped for making an expeditionary journey up the river and soon the bulk of these fortune-seekers were left far in our rear. Our outfit consisted of a four-months' supply of bacon, beans, flour, baking powder, provender for the horses, and the usual camp impedimenta of tents and blankets. The entire outfit weighed about four tons. We camped on four feet

of soft snow and waited for the rain to cease in order to get out of the mild coast belt and proceed over the snow up the river. The few days of waiting on the island were enlivened by sights and incidents of some contemporaneous human interest. The place seemed to be a reservation for the exhibition of many amusing features of human crankiness. All sorts of business ventures, more or less quixotic, were in evidence, from the saloon-keeper who intended to haul a barrel of whisky up the river on a hand-



SMALL ISLAND IN THE RIVER—VISITED BY ARMY TRAIL PARTY FOR THE FUEL

sled to the man who was taking along a 60-foot steamboat in sections for launching on Teslin lake. One of the most extraordinary manifestations of genius for impracticabilities was Captain Armstrong's snow train. This was nothing less than a steam locomotive on runners, designed to draw heavily loaded vans of freight for 300 miles over the surface of the snow by means of a windlass and steel-wire cable carried ahead to anchorage. The snow train was hauled after incredible exertion eight miles up the river and there abandoned.



CLIMBING TO THE PEAKS OF MOUNTAIN

During the early stages of the river journey we ordinarily made the morning start between midnight and two o'clock a. m., in order to get the advantage of an unbroken crust. It was dreary work plodding on by the creaking sledges several hours before daylight, the heavy snow of the broad river stretching out uninvitingly in the gloom before us like some gray morass. It was pleasant to think at these times that the whirling earth was bringing the golden sun flying across the continent; pleasant to think of Washington fully awake, of Chicago stirring uneasily in the sunrise of a new day. As our turn comes the forms of the giant peaks to the east gain detail and color in the gray pallor of the dawn. Soon the crests stand forth rosy against a pale pink sky-line, and tidings of coming day are flashed to the dark green spruce forests that lie in shadow on the river's brink. With the sun fully above the mountain crests the glare in the valley becomes painful. The snowy expanse of the river and its mountain walls glitters and scintillates with cruel brilliancy. Keery one becomes more or less affected with snow-blindness.

and complexions deepen into the hue and finish of red earthenware crockery. The writer's sleeping companion, John, the cook, introduced the device of daily blackening his face with soot from a charred fagot. It helped, he said, to soften the intolerable glare. Traces of these applications were visible upon a more or less wrinkled and pachydermated face many weeks later.

About the middle of March we crossed the Alaskan boundary, 40 miles up the river, and two miles beyond passed the dead body of a man wrapped in canvas and strapped to a tree near the river's brink. Hard-by stood a bare sled and its empty harness. The gaunt stark figure and the motionless sled in the silent white desert told the brief story of the hope that had braved the wilderness and of the quest that had failed. We bivouacked nightly under the stars on the ice of the river. There was no unpacking of tents or removal of clothing. The tired men stretched themselves in couples upon a layer of blankets, over which were drawn more blankets and a tarpaulin, and were soon sunk in stertorous slumber. There were those in the party who could not sleep more than half the night while "lying out" on account of the cold. To crawl forth in the dead of the night from a heap of blankets in a semi-torpid condition for the purpose of thawing out by a painfully kindled fire was anxiously pondered work.

About 50 miles up the river the base of a great glacier was skirted, whose jagged billows of bluish ice silhouetted against a cloudless sky-line had been a sort of pillar of cloud by day for many weary miles of travel. The bouldering of the boulders on the beaches and the plainly defined scratchings on the grim faces of the deeply serrated ridges testify to the sliding of a great ice-sheet in the remote ages of the past. The present-day glaciers, the linear scions of this ice-mantle, lie anchored in splendid isolation upon the flanks of the lofty mountains that hem in the river. The course of the river through 200 miles of cross-ranges, that might not be inaptly termed the Cordilleras of North America, is contentious and turbulent, circumventing barriers by abrupt bends. About 85 miles upstream the pent-up current boils through a gloomy cañon not 100 feet in width, but ordinarily the stream flows composedly to the sea between banks that are anywhere from 300 to 3,000 feet apart.

The heaviest snow encountered on the river was in the Forty-mile stretch between Fifty-five mile camp and the cañon. The snow lay in great wind-driven dunes from bank to bank, often

concealing thin ice. The ice varied from a few inches to four feet in thickness. At short intervals steel-pointed picket rods were thrust through the snow in advance of our heavy sledges, and the distance was covered in safety. Many outfits were lost through the ice in this stretch and six cases of death by drowning came to our notice.

Our outfit was well in advance of the bulk of the movement up the Stikine. Some light dog-teams had passed up the river a few days before, and the snow compacted by these sleds would ordinarily sustain the weight of our horses. The trail was a succession of heavy ruts and furrows; it was impossible for the horses to step to the snow on either side of the beaten track. The crust yielded even to the light caymies or Indian ponies, and they floundered helplessly until lifted bodily back again to the trail. We struggled valiantly through morasses of soft snow, tugging and heaving on the heavy sledges, while the teamsters urged on the discouraged horses. One Sunday, after making derisive of ourselves for half the day to our efforts to get the horses through heavy drifts, we hit upon the plan of drawing the beasts to a place of security on the sledges. The horses were accordingly detached, the loaded sledge drawn ahead, and the baggage removed. We then returned, and binding a worn-out horse securely to the top of the sledge, every man in the party laid hold of the tow-rope and tugged the beast up the river to where the stores had been deposited. Most of the men who had come thus far with horses had gone into camp on the river's bank in order to save the lives of their beasts. Little pools of blood along the trail marked the points where tired animals, cut by the crust, had been halted for a rest. Too gaunt and wasted carcasses of dead horses and dogs by the wayside told the story of overwork and of exhausted food supplies.

On Tuesday, March 28, after three weeks of travel on the river, we rounded a bend of the stream and beheld Glenora. From Fort Wrangell to this point no settled human habitation had met the eye. Now we perceived that Callbreath's log-trading cabin and a dozen Indian shacks perched squat-like on a low margin of river bank formed the settlement that made so brave a showing upon the maps of that region. Two months later the Indian shacks had been turned into hotels and 15 saloons were doing a lively business. A local weekly newspaper was being hawked through the streets at 25 cents a copy. Outfits were

THE BOAT LIFT ON THE RIVER.

about 9 o'clock, and among the first to be taken up (2000) were the first
and last of the boat lift on the river.

It was dark when we reached the boat lift on the river, and the
boat lift on the river was in the middle of the river, and the boat lift on the river
was in the middle of the river, and the boat lift on the river was in the middle of the river.



There were no boats on the river, and the boat lift on the river was in the middle of the river, and the boat lift on the river was in the middle of the river. There were no boats on the river, and the boat lift on the river was in the middle of the river, and the boat lift on the river was in the middle of the river.



THE OLD LAKESIDE	
NAME	ROOM
Mr. J. H. Smith	101
Mr. W. B. Jones	102
Mr. C. D. Brown	103
Mr. E. F. Green	104
Mr. G. H. White	105
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and the fact that the market has enough liquidity to absorb the new supply of shares without the price of the stock falling to the level of the bid.

[illegible]

FILES OF CHESAPEAKE (44)

by L. J. PETERSON

[2. 7. 1994 14:14:00]

A second study of the population takes place, and the response by the randomly chosen households is a second round survey. During the last fiscal year nearly 900,000 were on paper, but of which we are in possession of accurate information, we have extended as far as one could.

The application of barometric altimetry with a unique series of trigonometric solutions will open the way for correct predictions of the exact cost of water delivery, and will also result in the establishment for the whole body of a plan of reference of an improved permanent and undisturbed accuracy of absolute elevation of any given value of height, since it is one of the basic conditions of the survey by barometry. The accuracy with which such a forecast can be made is determined chiefly by the accuracy of the nature of the work based on it. In rough surveys such a forecast

THE RELATION OF FORESTS AND FOREST FIRES

By GEORGE H. LONG

Forester of the U. S. Department of Agriculture

THE study of forest fires as an element of the composition and evolution of the forest seems to be in earliest stages. Although many have planned to write of the fire as one of the agencies that have been instrumental to it. A few foresters who have worked most with the forest as do we do. Many of the foresters have produced fire with intention perpetrating some of the great factors which govern the structure and character of forest growth. It is rather has been said or written upon the subject that the opinion of such men seems to have been more or less only and upon one single basis of personal observation. The documents upon the subject still remain, with very few exceptions, in the forest itself. It is not strange that the acquaintance with what might be most concerned the great relation of forest fires should be so scanty, for only through the knowledge of this relation and through the depth with which we know what fires can there be given a cleared and far removed. How and why fires do occur, and how best they may be prevented or extinguished.

The records of past fires, written in the forest now on the ground, are often overgrown or forgotten more than a hundred years back, and in many cases for us we know that length of time. Such records throw light on the relation of forest fires as a thing new and are consequently the most valuable of our documents upon the somewhat intricate but most important question of the final effect of fire upon the forest; for we must clearly realize, before we present such a record of its proper sequence that we have not stated everything or when we say that "a given forest is destroyed by fire." The forests which are first with the exception of a few are on this continent and probably mostly overgrown if there are others that represent of others, which through the passage of years were burned down at intervals that we can no longer trace. There is but a thin of our forest forest area of this country which is not burned, or set on fire and more or less burned, or in fact a number of our forest of its growth.

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Fig. 1. ...
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uses of 11,000,000 m³ of water per day. The development of the young growth by the forest on the site of the old forest was a continuous young forest with a low level of logging in 1990. The timber harvest of 11,000,000 m³ per year is a high level of logging. The timber harvest of 11,000,000 m³ per year is a high level of logging.

I have been thinking about you a lot lately, and I hope you are well. I have been thinking about you a lot lately, and I hope you are well. I have been thinking about you a lot lately, and I hope you are well.



of the author, that the second sufficiently processes the
 lesson even on a third trial. The relation between
 these two parts of the first observed combination, and the
 second combination is not significant. The second re-

It would appear that the presence of moisture in the soil is a very important factor, but some doubt by this method is suggested. A very large part of the power consumed in the oil field, since 1900, is for



in this section as I in a lot on the be-aver of the smaller forest
and not the eastern edge of the spruce powerfully con firm s
a view. Where ever forest lands have been protected from
fire as they have very largely through the progress of settlement
have usually sprung up to great numbers of trees
between the scattered villages where a few survived the fire and
and a young forest growth stands ready to be made
and the open park like condition where the fire has

The well known "rocky ridge" that
is an excellent case in point. In a similar way the forest
growing from the borders of open land
springs to the grass lands and by such an extension as these
found in the original forest very few forests of
growth in the spruce where a

have that trees once grow and may grow again much beyond
the limits of the forest and when the western forest border of the
country. That was a reasonable
whatever is the case it was



valuable commercial tree, is governed. First of all, so far as we are at present, by fire. Hard frozen, kind out of these forests in the last hundred years the fir which gives them their distinctive character would not be in existence. It would be replaced in all probability by the conifer which fills even the spaces of the fir grove and forests where it happens to stand. I hasten to add that these facts do not imply any necessity that the fires which are now devastating the West

be extinguished. The reasons of fire and the forest are not so simple as they are often made to seem. The fir which have been so often worked out. Without question a number of reasons, the most likely, greater importance than to attempt to determine the exact of this branch, one of the most fruitful of the foresting. The foresting and forestal branches of forestry in the United States.

VARIATIONS IN LAKE LEVELS AND ATMOSPHERIC PRECIPITATION

by ALFRED J. HENRY,

Chief of Bureau of Records, U. S. Weather Bureau

A study of the fluctuations in the surface level of our Great Lakes is a very interesting problem. It is especially so at the present time owing to the large quantities of water being discharged into the great lakes of various industrial cities. These water works, dams, and other artificial structures which are present and will be, give rise to problems of a very different character from those which are met with in nature. The variations of the level of the Great Lakes are also the result of a number of factors. The writer confesses at this time, however, to a very limited knowledge of the subject of determining the probable level of the lakes. It is only by going to the principal sources of information which are available.

The stage of water in a river or lake or reservoir varies in such a manner that it is difficult to determine upon any one, the average, and evaporation. It is also extremely difficult to determine the correlation between precipitation and water stages as one year is better. The drainage basins themselves are so different that precipitation is not uniform. It is difficult to ascertain before all portions of the basin are covered by the stream flow. In a small basin of uniform surface and slope it is possible to calculate the exact

CONTENTS IN LAKE LEVELS

mentioned, fell some 3.5 in. from 1880 to 1881. The total fall was 2.2 in. The total rise was 1.2 in.

The mean monthly variation, both in lake level and in monthly precipitation over the period of observation, is shown in the upper part of page 44. The full curve shows the average level to which the surface of lakes Superior, Michigan, and Huron below the plane of reference of the U. S. Lake Survey high water of 1825. The dotted curve shows the average distribution of precipitation, in inches, throughout the year. The agreement between the two series of curves is as close as could be expected, considering the nature of the data on which they are based, and the internal errors of distances between the regions under consideration.

The character of the Lake Superior waters on all its shores is reported to be that of the region to the south-west, partly by reason of its general position and partly on account of the lake itself. The precipitation of winter is general and the form of snow, and is believed for the most part from storms descending from the North Pacific and the Canadian Northwest. The snow is greatest on the south shore of the lake and is rather dirty heavy from the heavy snow coming eastward to a large body of water, on the Huron, Superior and Atlantic shores.

If the two curves showing the monthly rise in the level of Lake Superior and the distribution of precipitation in its watershed respectively are compared, it will be seen that the annual rise in the lake level is coincident with an increase of precipitation. We should not be too hasty to put the two relations in the relation of cause and effect. The rise in the waters of the lake in the spring is due to the breaking up of the ice in the rivers and the melting of the snow. Water from these sources is fed into the lake during April and May more rapidly than it is discharged through the St. Marys river. Hence the surface level rises. The run of June, July and August, on the average, equals the amount of the monthly precipitation.

Is the surplus for the watershed equal to what is lost by the loss of evaporation? The latter is, to a certain extent, an unknown quantity, varying somewhat from year to year. For the most favorable case, and the loss of evaporation would not greatly exceed that of the lake. The height to which the surface of the lake will probably rise, therefore, must depend greatly upon the amount of water carried by the tributaries of the lake after the breaking up of the ice, plus the amount conserved during the spring and early summer in the exposed and forested areas.

with the watershed and the situation is, regrettably, complicated, and some of the slow-moving and previous water has the tendency of its own persistence.

The present season has been the outstanding season on both sides of the international boundary north of the international line. Upper and lower levels, south of that line, have been affected. The water of Lake Superior has been higher than normal, and there has been a decrease in water level of Lakes Michigan and Huron also, although rainfall over a large portion of the watersheds of the lakes mentioned has been abundant.

This is an important fact, since it suggests at once the probability that the stage of water in Lakes Michigan and Huron controlled in great measure by precipitation in the Superior basin. The number of observations reporting to the Weather Bureau from the lake region is small still. It should be possible in the course of a few years to define to at least an approximate degree the relations which exist between atmospheric precipitation and fluctuations in the level of the lakes.

CALCULATIONS OF POPULATION IN JUNE, 1900 *

by HENRY FARMAN,

Assistant Engineer, Division of Statistics, U. S. D. A. Chief of Agriculture

The problem to be discussed in this paper may be stated as follows: Given the population of the United States and territories report territorial extensions for the first of June, 1900, for the year 1899, and the total immigration to the country for the period between September 1891 and ending with 1900, estimate the population of the population probably to be reported for the same territory for the first of June next year. In carrying out this problem, figures, those for 1870, confessed by census takers, and said to be several hundred thousand, short of the truth, are omitted. The immigration for the fiscal year just begun must necessarily be estimated, calculating the increase from 1899 to 1900, on the basis of the total immigration of the year 1900.

The annual figures are given by fiscal years, commencing with September 30, 1890 to 1900, with the exception of

* Based on the report of the American Census.

U. S. D. A. Bulletin No. 100.

1

1. The first part of the book is devoted to the history of political theory in the 19th century. It begins with a discussion of the rise of liberalism and the influence of the French Revolution. The second part of the book is devoted to the history of political theory in the 19th century. It begins with a discussion of the rise of liberalism and the influence of the French Revolution.

2. The second part of the book is devoted to the history of political theory in the 19th century. It begins with a discussion of the rise of liberalism and the influence of the French Revolution. The second part of the book is devoted to the history of political theory in the 19th century. It begins with a discussion of the rise of liberalism and the influence of the French Revolution.

and the 1990s, the concept of being together in a unitary and homogeneous world was a fiction as well as a goal. It is now of fundamental importance to recognize and accept the fact that the world is not unitary and homogeneous. The world is a mosaic of different cultures, languages, religions, and values. The world is a mosaic of different peoples, nations, and states. The world is a mosaic of different interests, needs, and desires. The world is a mosaic of different problems, challenges, and opportunities. The world is a mosaic of different solutions, answers, and actions. The world is a mosaic of different dreams, hopes, and aspirations. The world is a mosaic of different lives, loves, and legacies. The world is a mosaic of different worlds.

As the six business executives from other "bottom ten" U.S. industries of 1990 joined the "bottom ten" of 1991, they noted that the "bottom ten" industries "didn't really grow" in 1991. They also noted that the "bottom ten" of 1991 had a combined 1990 net loss of \$1.2 billion, less than the combined 1990 net loss of \$1.3 billion of the "bottom ten" of 1990.

The book, an 800-page, hard-bound volume, is available for \$125.00.

$\mu = \frac{1}{N} \sum_{i=1}^N x_i$

H. J. '89

^a The number of subjects who were included in each group was 10.

2017年10月24日 星期四 晴

מסלול: 1. חקירת מקרה (Case Study) 2. ניתוח נתונים (Data Analysis) 3. סינתזה (Synthesis) 4. דיון (Discussion) 5. מסקנות (Conclusions)

• **41**

Abstract

[illegible][illegible]

The purpose of this study is to determine the effect of the use of the Internet on the use of the Internet by the public. The study is a quantitative study and the data are collected from the Internet. The study is a quantitative study and the data are collected from the Internet. The study is a quantitative study and the data are collected from the Internet.

to an employer, then it also applies to the employer, not just the employee.

1. *Illegible text*

4 | Page

[illegible]

CHROMATIC MATHEMATICS

[illegible][illegible]

1. \mathcal{L}_1 is a linear space over \mathbb{R} with the usual operations of addition and scalar multiplication.

It is also possible that the observed differences in the number of children in the sample may be due to differences in the number of children in the sample. The number of children in the sample is 100 for the first group and 150 for the second group. The number of children in the sample is 100 for the first group and 150 for the second group. The number of children in the sample is 100 for the first group and 150 for the second group.

[illegible]

[illegible][illegible]

The study is significant if the observed correlation is not due to chance. We therefore test the null hypothesis that the correlation is zero. In this case, the test statistic is the sample correlation coefficient, r , which is calculated as follows:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

where x_i and y_i are the individual data points, \bar{x} and \bar{y} are the sample means, and n is the sample size. The test statistic r follows a distribution that depends on the sample size and the null hypothesis. For a two-tailed test, the critical values are determined by the significance level α and the degrees of freedom $df = n - 2$. The test is significant if the absolute value of the test statistic is greater than the critical value.

11/11/2014 11:24

For more information, see *The American Paleontologist*, vol. 35 (1983), pages 100-102, containing photographs of the type material. The type is deposited in the University of Toronto at 500.

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more modest if viewed in the light of the fact that the number of persons employed in the Administration is only 1,500. The Government of Sweden, on the other hand, has a population of 1,000,000 persons, and the number of persons employed in the Administration is 100,000.

This medical expert is confident that the young man was suffering from a mild form of epilepsy for the purpose of this young man's examination of the spinal fluid was taken to find that it was a stroke and not a brain injury, which had been caused by a stroke.

[illegible]

The hospital is still run much the same as before the United States bought it, and most of the nursing staff is non-credentialed (4) in fact. The hospital is not run properly by a medical group, and the doctors doing the majority of work are on an average of less than 10 years experience.

The importance of Maryland as a world-famous stage and set for a production of the nation's history and culture is another factor in the decision to erect the monument. The expenses of this work will be borne out of the state's own funds and not by federal or Maryland contributions of the state.

The treatment of zero waste just this far in the paper, (Table 1) by you is useful for the purpose of the book as a general knowledge, but not I assume necessarily as a technical reference. If different materials are used, and if the waste is different, it is better to do a series of experiments and have some idea of the results. I thought I would point this out, and I would like to have a copy of your results for my work on the

[illegible]

There was found 4 miles out from the Washington, D.C. base the two old red oak - quaking aspen forest which is located in the Washington Highlands. The forest was noted September 11, but not in a catalogue, but it was featured by a very recent report on September 11, 1968, which is now in the hands of the U.S. Forest Service. A report received by the U.S. Forest Service on September 11, 1968, states that an area of 100 acres was noted on September 11, 1968, but that no distance was given at that time.

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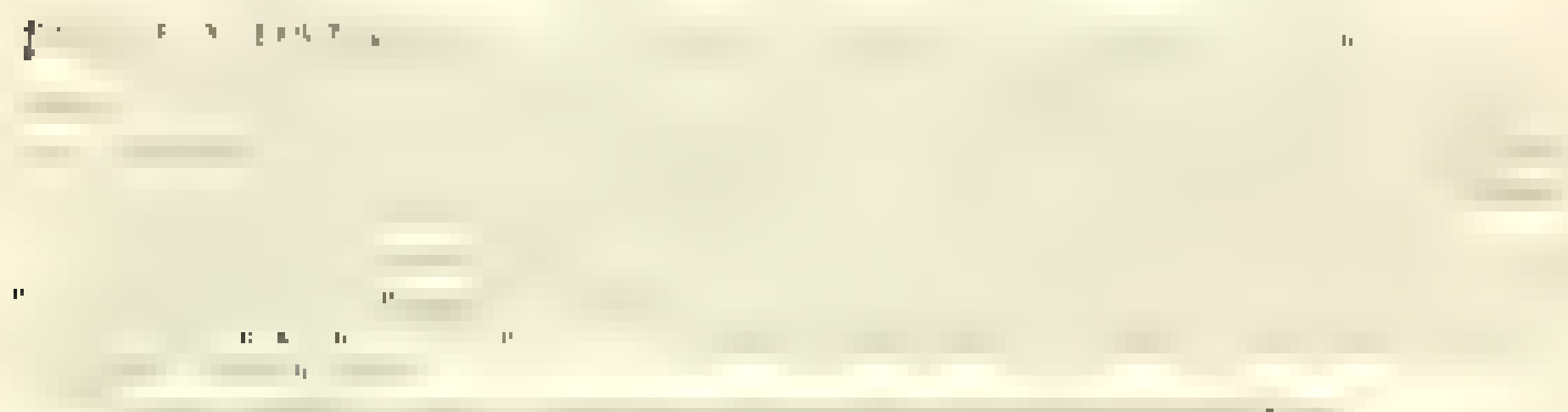
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